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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,938	04/27/2001	Erik K. Karell	60426-218;2000P09005US01	2261

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TA, THO DAC

ART UNIT	PAPER NUMBER
2833	

DATE MAILED: 07/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Applicant No.	Applicant(s)	
	09/844,938	KARELL, ERIK K.	
	Examiner Tho D. Ta	Art Unit 2833	
<i>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</i>			
<b>Period for Reply</b>			
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.			
<ul style="list-style-type: none"> <li>- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.</li> <li>- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.</li> <li>- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.</li> <li>- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).</li> <li>- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).</li> </ul>			
<b>Status</b>			
1) <input checked="" type="checkbox"/> Responsive to communication(s) filed on <u>20 May 2002</u> . 2a) <input checked="" type="checkbox"/> This action is FINAL.                    2b) <input type="checkbox"/> This action is non-final. 3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.			
<b>Disposition of Claims</b>			
4) <input checked="" type="checkbox"/> Claim(s) <u>1-17</u> is/are pending in the application. 4a) Of the above claim(s) _____ is/are withdrawn from consideration. 5) <input type="checkbox"/> Claim(s) _____ is/are allowed. 6) <input checked="" type="checkbox"/> Claim(s) <u>1-17</u> is/are rejected. 7) <input type="checkbox"/> Claim(s) _____ is/are objected to. 8) <input type="checkbox"/> Claim(s) _____ are subject to restriction and/or election requirement.			
<b>Application Papers</b>			
9) <input type="checkbox"/> The specification is objected to by the Examiner. 10) <input type="checkbox"/> The drawing(s) filed on _____ is/are: a) <input type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) <input type="checkbox"/> The proposed drawing correction filed on _____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. 12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner.			
<b>Priority under 35 U.S.C. §§ 119 and 120</b>			
13) <input type="checkbox"/> Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) <input type="checkbox"/> All    b) <input type="checkbox"/> Some * c) <input type="checkbox"/> None of: 1. <input type="checkbox"/> Certified copies of the priority documents have been received. 2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____. 3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received.			
14) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) <input type="checkbox"/> The translation of the foreign language provisional application has been received. 15) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.			
<b>Attachment(s)</b>			
1) <input type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .		4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____ .	

**DETAILED ACTION**

1. This action is in response to applicant's amendment received on May 20, 2002 and filed as Paper No. 3.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Treusch et al. (5,598,824) in view of Kinkaid et al. (4,082,402).

In regard to claims 1-3, Treusch et al. discloses a fuel injector assembly 10, comprising: a body portion 20 that houses fuel injector components; an electrical interface portion 53 supported by the body portion 20, the electrical interface portion 53 at least partially extends outwardly and away from the body portion 20; and at least one connector member 70 supported on the interface portion 53, the connector member 70 is outside of the body portion 20, the connector member 70 electrically couple the connector portion to an electrical male conductor 69.

However, Treusch et al. does not disclose that the at least one connector member 70 is a deformable connector member having at least one edge that is adapted to penetrate an insulation covering on an electrical conductor. Thus, the electrical connection between the connector member 70 and the male conductor 69 of Treusch et al. would become loose or disconnected due to vibration.

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Kinkaid et al. discloses a deformable connector member 6 having at least one edge 6a that is adapted to penetrate an insulation covering 30 on an electrical conductor 28 to thereby providing a reliable electrical connection between the deformable connector member 1 and the conductor 28. Further, Kinkaid et al. discloses a plurality of connector members 6, each comprising a barb 6a of flexible metal material, wherein the conductor 28 comprises a flexible conductor cable; wherein a plurality of conductors 28 and a corresponding plurality of deformable connector members 6.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Treusch et al. invention by replacing the connector member 70 and the male conductor 69 with the deformable connector member and a cable conductor as taught by Kinkaid et al. in order to provide a reliable electrical connection for the fuel injector assembly.

4. Claims 6-9, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Treusch et al. and Kinkaid et al as applied to claims 1, 4 , 12, 15 above, and further in view of Kamon et al. (5,326,273).

Treusch et al. as modified by Kinkaid et al has been discussed above.

Kamon et al. discloses a securing member 3 placed over the conductor 1 and the connector member 2, wherein the securing member 3 comprises plastic that is molded over the conductor 1 and the connector member 3 for providing a seal at the connection portion between the conductor 1 and the connector member 2, wherein the securing

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member 3 comprises at least one material selected from the group consisting of plastic, foam or silicone (column 3, lines 44-48).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify Treusch et al. invention by adding the securing member as taught by Kamon et al. in order to provide a water-proof layer at the connection portion between the conductor and the connector member.

***Response to Arguments***

5. Applicant's arguments filed 05/20/02 have been fully considered but they are not persuasive.

In response to applicant's argument on page 3, last para. of the Remarks, one of ordinary skill in the art would recognize that when using the connection feature of Kinkaid et al., the mechanical locking feature of Treusch et al. will no longer needed. Further, the test for obviousness is not whether the features of the reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the references make obvious to one of ordinary skill in the art. In Re Bozek, 163 USPQ 545, (CCPA 1969).

In response to applicant's argument that ".....the possibility of such disconnection has already been addressed by Treusch et al....." on page 4 of the Remarks. Contrary to applicant's argument, the mechanical locking feature of Treusch et al. mainly to retain the two connector housings 20 and 52 together, and the connection member 70 and the male conductor 69 could become loose due to vibration because they are connected by

interference fit. One skill in the art would find that by using the teaching of Kinkaid et al. would provide much better electrical connection than the interference fit connection disclosed by Treusch et al. Thus, the combination of the cited references is proper and analogous.

***Conclusion***

**6. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**7.** Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho D. Ta whose telephone number is (703) 308-0800. The examiner can normally be reached on M-F (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (703) 308-2319. The fax phone

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numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.



THO D. TA  
PRIMARY EXAMINER

tdt  
July 25, 2002